Changes to Defaults Format

The original Article referring to Defaults Migration/Security prior to ArtiosCAD Enterprise v16.0 can be found here.

- KB83182753: ArtiosCAD - Defaults migration types and security

Beginning with version 16, ArtiosCAD will be using a new format for its system settings (defaults). This new system was designed mostly with two main goals in mind,

- to allow for simultaneous language interoperability specifically for users in disperse environments across different regions, and
- simultaneous version interoperability to minimize configuration disparities.

Internally these concepts are referred to as Language/Version Agnostic Defaults. A completely new format was chosen for Artios (.adf) files. They no longer will use the custom, underscore-delimited text format. XML has been chosen as a replacement, and its format is structured after the tree-like arrangement of defaults as viewed in the defaults editor (Options > Defaults) in ArtiosCAD. This format will have several advantages, the most obvious is that it is eminently more hand-editable and will not fail due to white-space inconsistencies as was a common problem with the old format. Additionally all .adf files which have been converted to .xml are zipped as well. This is to speed up the transfer to/from WebCenter.

The parsing of any defaults files will consist of interpreting the supplied values in sysdflt.xml(.zip). To ensure forward compatibility, additional tags with unknown "Name" attributes will be stored until the file is saved and rewritten upon saving.

A quick overview of the format can be summarized as follows.

The Defaults tree-structure as outlined in the defaults editor is approximated by an xml structure similar to the simplified one below.

Only node names such as "DEFAULTS", "DFOLDER", "DTABLE", "DVALUE", "DTABLEITEM", "DVIS" are preserved upon saving. If a tag with a new (previously unencountered) "Name" attribute is encountered it is preserved even if it does not correspond to a currently valid default setting in the current running version. This feature makes it possible for older versions of ArtiosCAD (after v16.0+) to work with defaults from later versions and not corrupt the file format. Version 16.0 would be able to read and modify a defaults file from a hypothetical v18.0 ArtiosCAD.

Numerical values are usually hexadecimal values, and while it is certainly possible to edit/paste values manually, it is not recommended.

```
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
<DEFAULTS HighestSavedVersion="16.0" LastSavedVersion="16.0">
  <DFOLDER Name="Startup Defaults">
    <DVIS Visibility="1:1;2:1;"/>
    <DFOLDER Name="Units and formatting">
      <DVALUE Name="Units" Value="41cb3333"/>
      <DVALUE Name="DecimalPlacesIn" Value="3"/>
      <DVALUE Name="DecimalPlacesMM" Value="2"/>
      <DVALUE Name="FractionsIn" Value="1"/>
      <DVALUE Name="FractionsMM" Value="0"/>
      <DVALUE Name="UseTrailingZerosIn" Value="0"/>
      <DVALUE Name="UseTrailingZerosMM" Value="0"/>
      <DVALUE Name="UseTwentieths" Value="0"/>
    </DFOLDER>
  </DFOLDER>
</DEFAULTS>
```

Layout denotes a single leaf in the top-level defaults, "Startup Defaults".

Defaults Structure Changes
There are some differences in the way defaults are structured which now allows for fewer files in the shared defaults project along with overall fewer projects. Traditionally the shared defaults for Enterprise contained every file from InstLib (a local directory storing defaults/resources which exist as they did at program installation). An Enterprise client would look in the shared defaults on WebCenter for all its resources (standards/macros/tunings) which could be costly for a slow connection, and require the project to be much larger. Since most of these resource files seldom change, we recommend users make their own instead of editing the supplied resources. It was decided to make each client retrieve them from the locally installed InstLib on their own machine. This, along with condensing the extra number of shared defaults projects based on version/language, leaves a much smaller footprint on WebCenter in terms of the number of projects for defaults. One shared defaults project exists for all versions /languages. One location defaults project exists for all versions/languages at each location. Lastly, one user defaults project exists for each user for all versions/languages.

Revised Defaults Migration Types

Scenarios that are unchanged will be omitted and can be referred to in KB83182753.

Migrate (pre-v16.0) Standard Edition (and Enterprise) shared defaults to Enterprise Edition shared defaults (v16.0+). This step is now the same, with minor deviations, when going from any pre-v16.0 version of ArtiosCAD, Standard Or Enterprise, to the new v16.0+ Enterprise.

1. After installing ArtiosCAD Enterprise (v16.0+), as an admin, run the ArtiosCAD Enterprise Setup program and click Create/Manage ArtiosCAD Defaults. Please make sure you are running from the Standard Edition Server if going from Standard to Enterprise in this scenario.
2. You will need to login to your instance of WebCenter, supplying the address, and credentials for an Administrator-level user.
3. The Defaults Manager window should open.

4. Click Migrate pre-ArtiosCAD 16.0 shared defaults to new shared defaults.

5. Depending on which Edition you are coming from, changes the settings you should use in the box below.
   - If you are coming from Standard Edition, Select Standard edition in the first drop down box, and the version you want to use.
   - If you are coming from an older Enterprise version, select Enterprise in the first drop down box and the appropriate version/language.
6. Click the Migrate Projects button.

The new way to upgrade the shared defaults project for Enterprise v16.0+ is the following:
When updating Enterprise defaults to a newer version (i.e. v16.0 to v18.0), only the shared defaults need to be updated. This process will only introduce new (if any) defaults to the existing set found in the **ACad Defaults_Shared** Project.

1. After installing ArtiosCAD Enterprise (v16.0+), as an admin, run the ArtiosCAD Enterprise Setup program and click **Create/Manage ArtiosCAD Defaults**.
2. You will need to login to your instance of WebCenter, supplying the address, and credentials for an Administrator-level user.
3. The Defaults Manager window should open. It is displayed as the first graphic in scenario discussed above.
4. Click **Add new defaults to the shared defaults project**. This will automatically introduce /merge any new settings to your shared defaults which were added between your previous version and the one you are currently upgrading to.

There is no action required to upgrade a v16.0+ location defaults project specifically.

There is no action required to upgrade a v16.0+ user defaults project specifically.

**Additional Migration Actions**

Among the original migration actions a user can take, there exists new actions specific to post v16.0 installations in the Defaults Manager program. They are as follows:

**Create New Shared Defaults** - After the very first installation of ArtiosCAD Enterprise, if the organization is installing it for the very first time without any defaults upgrade path, they will need a stock shared defaults project to be generated. This link was designed for that purpose. After they use this option it will become greyed-out and never needs to be used again.

**Migrate User/Locations Defaults** - It is now necessary to migrate pre v16.0 user/location defaults containing useful edits to version-less user/location defaults projects. This tool will allow doing that. Once the version-less variant of a user or location default project exists, it need not be updated in the traditional manner as there is more flexible way for ArtiosCAD Enterprise v16.0 to resolve the default settings.
This migration tool will only show you what is potentially available to migrate on your current WebCenter system.

The Migrate Projects button is activated when a user picks a language and selects a project from the defaults list control.

WebCenter Autonaming note
It has been discovered that when migrating defaults via the Defaults Management tool from a version 16 or older, if the WebCenter global autonaming is enabled, the migrated files will be autonamed when copied into the defaults projects. Global autonaming should be disabled during an enterprise defaults migration.